Chronic Wasting Disease in Wisconsin's White-tailed Deer Herd

Frequently Asked Questions

What is Chronic Wasting Disease? CWD is a nervous system disease of deer, moose and elk. It belongs to the family of diseases known as transmissible spongiform encephalopathies (TSEs) or prion diseases. Though it shares certain features with other TSEs like bovine spongiform encephalopathy ("mad cow disease") and scrapie in sheep, it is a distinct disease. CWD occurs only in members of the cervid or deer family, both wild and captive. It has been found on deer or elk farms in Colorado, Kansas, Minnesota, Montana, Nebraska, New York, Oklahoma, South Dakota, Wisconsin, Wyoming and the Canadian provinces of Alberta and Saskatchewan. CWD has also been detected in wild deer or elk herds in Colorado, Illinois, Kansas, Nebraska, New Mexico, New York, South Dakota, Utah, West Virginia, Wisconsin, Wyoming and the Canadian provinces of Alberta and Saskatchewan.

What are the signs of CWD in deer? Because CWD typically takes between 15 and 24 months to exhibit physical symptoms, most infected deer will appear normal. Once the clinical signs do appear they include excessive salivation, loss of appetite, progressive weight loss, excessive thirst and urination, listlessness, teeth grinding, holding the head in a lowered position and drooping ears. However, these symptoms are not exclusive to CWD. Other diseases such as Cranial Abscessation Syndrome (a bacterial disease of the brain) or malnutrition can cause the same symptoms to appear.

How is CWD transmitted? It is not fully understood how CWD is transmitted between deer. Data to date suggests that it may be transmitted both directly through animal to animal contact as well as indirectly through a contaminated environment. Saliva and feces are believed to be the most likely mode of transmission from an infected animal. A recent scientific study from the University of Wisconsin, Madison, suggests that the CWD prion can remain infectious for several years in certain types of soil.

Does CWD pose a health risk to humans? CWD has never been shown to cause illness in humans. However, in Europe, a similar disease of cattle called BSE (also known as "mad cow disease") is the cause of a fatal nervous system disease in some humans who have eaten tissues from infected cattle. For over two decades CWD has been present in wild populations of mule deer and elk in Colorado. In this time there has been no known occurrence of a human contracting any disease from eating CWD infected meat. Additionally, here in Wisconsin, incidence of Creutzfeldt Jacob Disease (CJD), the prion disease that most commonly infects humans, is detected at the same rate as the rest of the world; about one in a million. But much is not known about CWD. Because of this, it is not recommended that people consume meat from a deer that tests positive for CWD. Some simple precautions should be taken when field dressing deer in areas where CWD is found:

- **Wear rubber gloves** when field dressing your deer.
- **Bone out the meat** from your deer.
- **Minimize the handling** of brain and spinal tissues.
- **Wash hands and instruments thoroughly** after field dressing is completed.
- **Avoid consuming** brain, spinal cord, eyes, spleen, tonsils and lymph nodes of harvested animals. (Normal field dressing coupled with boning out of a carcass will essentially remove all of these parts.)
- **Request that your animal is processed individually**, without meat from other animals being added to meat from your animal.

How is CWD diagnosed? When you submit your deer head for testing, two lymph nodes are collected from it. The lymph nodes sampled are one of the tissues where prions can be detected earliest after a deer has been infected with CWD. Part of each lymph node collected is then screened for CWD using a commercial ELISA test. If it screens positive, a confirmatory test, the Immunohistochemistry or IHC test is used. This test can be quite labor intensive and time consuming. The remaining sections of lymph node are frozen and archived. All screening and confirmation of CWD in wild Wisconsin deer takes place at the Wisconsin Veterinary Diagnostic Laboratory in Madison.

What do we know about CWD in Wisconsin Deer? Wisconsin has tested more than 100,000 free-ranging white-tailed deer for CWD since 1999. Of these deer, 652 tested positive for the disease, all in southern Wisconsin. More than 80 percent of the positive deer are found in a 126-mi^2 area near Mt. Horeb. The Wisconsin Department of Agriculture, Trade and Consumer Protection and Wisconsin's deer and elk farming industry are cooperating on a CWD surveillance program for farmed animals. As of September, 2006, 515 herds were enrolled. Most of these are white-tailed deer or elk herds, but some also contain red deer, reindeer, fallow deer or sika deer. More than 15,000 farm-raised deer and elk have been tested, with 94 white-tailed deer and one elk testing positive for CWD.

Can CWD be transmitted to livestock? To date, there has been no occurrence of livestock naturally contracting CWD. In studies conducted by veterinarians from the University of Wyoming, the Colorado Division of Wildlife and the Wyoming Game and Fish Department, where livestock were placed directly into pens with CWD infected mule deer, no cattle contracted the disease after more than five years of exposure. The only cattle that the researchers were able to infect with CWD had it injected directly into their brain. However, only three of the 13 animals that had CWD injected into their brain contracted the disease. According to the United States Department of Agriculture, similar experiments were conducted with sheep and goats. These animals never contracted CWD.

How did CWD get to Wisconsin? We don't know how the disease first came to Wisconsin, and we may never know. Conservation wardens followed many leads and rumors in that first year, but no smoking gun emerged. At this point, CWD is here and we now have to focus on how to best manage the disease.

What's being done to manage CWD in Wisconsin? Our main goal is a healthy deer herd. In addition, the department's goals are to minimize the negative impacts of CWD on deer and elk farms, the state's economy, hunters, landowners and other people dependant on healthy wild and farmed populations of deer and elk. Scientific data suggests that when population density is high CWD is quickly transmitted between deer. Because of this, reducing the density of deer on the landscape is the main method in which we believe CWD can be slowed or stopped. Extended seasons, extra seasons, unlimited tagging and sharpshooting are all tools we use to reduce deer numbers. These tools combined with surveillance, which allows us to monitor the spread and prevalence of the disease, are used to manage CWD in Wisconsin. In addition to these management efforts, many scientific studies are underway that will help us better understand the disease and deer behavior.

What would happen if we did nothing to manage CWD? Because there is no evidence of genetic resistance to CWD in deer, the idea that it could simply "burn itself out" is nearly impossible. A simulation model suggests that if left unmanaged over the next ten to thirty years, CWD will spread widely throughout Wisconsin and increase in prevalence to more than 40 percent of adult deer. Colorado's situation supports this model because prevalence in mule deer on some local winter ranges there now exceeds 25-30 percent. To put this in perspective, in some sections of Wisconsin's core area prevalence is as high as 8-12 percent. In addition, the known affected area of Colorado and Wyoming has expanded more than one hundred miles to the west and northwest during the past five years.

What should I do if I observe or harvest a deer that I suspect may have CWD? Call your regional DNR office or the Wildlife Management Bureau, (608) 266-8204, right away. Agency staff will try to kill the deer or give you permission to kill the deer and collect samples from it for CWD testing.

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